

February 2022



CITY OF MERCED

**MERCED**

## PYRETHROID MANAGEMENT PLAN

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# 1 Introduction

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The City of Merced (City) is submitting this Pyrethroid Management Plan in response to the Central Valley Water Board's (CVWB) letter dated July 17, 2020. The City requested an extension to submit a Pyrethroid Management Plan and was granted this request per letter from the CVWB to submit by February 19, 2022.<sup>1</sup> The Pyrethroid Management Plan is designed to comply with the CVWB's *Amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Pyrethroid Pesticide Discharges* in Resolution R5-2017-0057<sup>2</sup> referred to as the Pyrethroid Pesticide Basin Plan Amendment (BPA).<sup>3</sup>

This Pyrethroid Management Plan is intended to comply with the Best Management Practices (BMPs) specified in section 6c of the Pyrethroid Pesticide BPA and will serve as a component of the Program Effectiveness Assessment and Improvement Plan to address the Pollutants of Concern. The Section 6c BMPs are non-structural control strategies.

The City also requires structural control measures for new development, such as the low impact development (LID) standards specified in the City's Post-Construction Standards Plan. Although structural control measures are not required by the Pyrethroid Pesticide BPA, they are also a component of the City's approach to reduce pesticide and sediment load.

Promoting and implementing the components of Integrated Pest Management (IPM) is the cornerstone of this Pyrethroid Management Plan. IPM, as defined by the University of California Statewide IPM Program<sup>4</sup> is "an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment."

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<sup>1</sup> October 6, 2021 letter from the Central Valley Water Board: APPROVAL OF EXTENSION REQUEST FOR SUBMISSION OF A PYRETHROIDS MANAGEMENT PLAN

<sup>2</sup> Central Valley Regional Water Quality Control Board. *Amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Pyrethroid Pesticide Discharges*. Resolution R5-2017-0057. Adopted June 2017.

[https://www.waterboards.ca.gov/rwqcb5/board\\_decisions/adopted\\_orders/resolutions/r5-2017-0057\\_res.pdf](https://www.waterboards.ca.gov/rwqcb5/board_decisions/adopted_orders/resolutions/r5-2017-0057_res.pdf)

<sup>3</sup> The State Water Resources Control Board approved the Pyrethroid Pesticide BPA on July 10, 2018 and the Office of Administrative Law (OAL) approval was granted on February 19, 2019, commencing a 20-year timeline to compliance, with final target attainment in 2039. With the United States Environmental Protection Agency (USEPA) approval on April 22, 2019, the pyrethroid TMDLs included in the Pyrethroid Pesticide BPA came into effect.

<sup>4</sup> UC ANR Statewide IPM Program "What Is Integrated Pest Management (IPM)?"

<https://www2.ipm.ucanr.edu/What-is-IPM/>



Some of these BMPs have been modified to meet specific requirements of the Pyrethroid Pesticide BPA. Each section includes a list of BMPs that will be implemented to meet the requirements of the BPA. Although it is committed to maintaining the level of effort represented by the listed BMPs, the City may elect in the future to change the details of these BMPs, or to implement them using staff resources or through different consultants or programs. Implementation details will be updated as necessary in annual work plans and documented in Mid-Term and End-Term Reports that are required by the City's National Pollutant Discharge Elimination System (NPDES) Permit.

The BMPs are organized according to the requirements for municipal dischargers set forth in section 6c of the Pyrethroid Pesticide BPA. For convenience, the language of each Pyrethroid Pesticide BPA section is provided preceding the description of the City's BMPs designed to meet the Pyrethroid Pesticide BPA section's requirement.

### **1.1 PYRETHROID MANAGEMENT PLAN APPROACH**

This Pyrethroid Management Plan includes a set of management practices that, taken as a whole, may reasonably be expected to effectively reduce pyrethroid levels in the municipal stormwater discharges. All management practices required in Section 6c of the Pyrethroid Pesticide BPA have been included.

The Pyrethroid Management Plan is organized as follows:

**Section 1** – Introduction

**Section 2** – Education and Outreach Activities

**Section 3** – Pesticide Pollution Prevention Activities

**Section 4** – Participation in Pesticide Regulatory Processes

**Section 5** – Progress Reports and Adaptive Management

## **2 Education and Outreach Activities**

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The Pyrethroid Pesticide BPA requires a range of education and outreach activities for the general public that encourage management practices that minimize pesticide runoff, including the following:

- Residential Outreach (Section 2.1)
- Point-of-Purchase Outreach (Section 2.2)
- Outreach Regarding IPM Pest Control and Landscape Services (Section 2.3)
- Outreach for Landscape and Irrigation Practices (Section 2.4)

### **2.1 RESIDENTIAL OUTREACH**

The Pyrethroid Pesticide BPA requires the following residential outreach activity:

*Undertake targeted outreach programs to encourage residents to reduce their reliance on pesticides that threaten water quality, focusing efforts on those most likely to use*

*pesticides that threaten water quality, potentially by working with DPR, County Agricultural Commissioners, and the University of California Statewide Integrated Pest Management Program, or other entities as appropriate.*

The City will conduct a regional IPM media outreach campaign. The campaign will promote IPM for the urban environment but will include messages that focus on pyrethroids and other urban-use pesticides. The outreach activities will be adapted as necessary if additional urban-use pesticides emerge as potentially impactful on urban receiving waters. As appropriate, the IPM outreach campaign will be integrated with and supportive of the BMPs described in Sections 2.2 through 2.4 below.

The City will implement targeted outreach programs that convey messages to the residents specific to the proper use and application of pesticides, as well as encouraging the use of less toxic options to help reduce reliance on pesticides that threaten water quality. The residential outreach activities that are implemented (or will be developed and implemented) by the City include the following:

- Website – The City will provide pesticide-specific outreach on its website. The website will include links to pesticide-related information and options for less toxic methods of pest control.
- Household Hazardous Waste – The City will encourage public participation in pesticide reduction efforts by coordinating with the Merced County Regional Waste Authority in the Household Hazardous Waste program to encourage proper pesticide disposal.
- Public Outreach – The City participates in public outreach efforts through mixed media advertising campaigns, providing outreach material at community events, and/or hosting outreach events (e.g. Merced County Fair, downtown festivals and farmers markets). Targeted outreach on the proper use of pesticides and/or promoting IPM will utilize social media, radio, billboards, and/or other mixed media to reach target audiences and communities.

## **2.2 POINT-OF-PURCHASE OUTREACH**

The Pyrethroid Pesticide BPA requires the following point-of-purchase outreach activity:

*Make available point-of-purchase outreach materials to pesticide retailer(s) in or near the Permittee's jurisdiction. These materials shall provide targeted information on proper pesticide use and disposal, potential adverse impacts on water quality, and less toxic methods of pest prevention and control.*

The City will implement BMPs that provide retailers with point-of-purchase outreach materials focused on IPM and water quality protection. Ongoing implementation to comply with the Pyrethroid Pesticide BPA will be consistent with the BMPs as described herein although the City may elect to implement point-of-purchase outreach activities using staff resources or through different consultants, retailers, or programs. The City does not have authority to require acceptance of our material, events, or trainings, so the number of stores participating is dependent on decisions made by the store management. However, we will target the level of retail store participation with placing and maintaining outreach materials in a minimum target of 3 stores that sell pesticides (e.g., Home Depot and Lowe's).



## 2.3 OUTREACH REGARDING IPM PEST CONTROL AND LANDSCAPE SERVICES

The Pyrethroid Pesticide BPA requires the following outreach activity regarding pest control and landscape professionals:

*Conduct outreach to residents and businesses who may hire structural pest control and landscape professionals that contains messages that (a) explain the links between pesticide usage and water quality; and (b) provides information about structural pest control IPM certification programs and IPM for landscape professionals.*

The City will incorporate messages for residents and businesses on the subjects listed below into the public IPM annual media outreach campaign, for which the level of effort is described in **Section 2.1**:

- Links between pesticide usage and water quality,
- Structural pest control IPM certification programs, and
- Landscape professionals trained in IPM practices.

The City will maintain a list of reputable structural IPM certification programs on the City's website. Examples of currently available programs include EcoWise Certified and GreenPro. In addition, IPM for landscape professionals will be included in the City's BMPs that promote ecologically friendly landscaping practices, as described below in **Section 2.4**.

## 2.4 OUTREACH FOR LANDSCAPE AND IRRIGATION PRACTICES

The Pyrethroid Pesticide BPA requires the following outreach activity for landscape and irrigation practices:

*Encourage public and private management practices (e.g., landscape design, irrigation management, etc.) that minimize pesticide runoff.*

The City will continue to support ecologically friendly landscaping practices. This effort will include support of landscaping practices that reduce reliance on, and discharge of, pesticides.

The City will fund the following outreach initiatives to minimize pesticide runoff:

- Provide a minimum of one annual training opportunity to landscape design and maintenance professionals, including City staff, on IPM principles and practices,
- Provide a minimum of one education opportunity for homeowners and gardeners, and
- Maintenance of an eco-friendly landscaping website and written materials.

The program will be implemented inhouse or through a consultant such as ReScape California, a non-profit organization that is active in the Bay Area and Central Valley. ReScape promotes practices to holistically meet multiple environmental goals, including reducing the discharge of stormwater pollutants from landscaped areas such as pesticides, sediment, and nutrients, and promotes the installation of stormwater features such as low impact development measures and rain gardens. The specifics of how this BMP is implemented will be documented in the appropriate workplans and the Mid-Term and End-Term Reports.

### 3 Pesticide Pollution Prevention Activities

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The Pyrethroid Pesticide BPA includes a range of pollution prevention activities for public agencies that reduce reliance on pesticides that adversely impact water quality. Through the stormwater management program, the City implements several activities that address pesticide management via pollution prevention related to the City's own facilities and operations. Consistent with the Pyrethroid Pesticide BPA, the City will build on the existing stormwater program activities to implement the following pollution prevention BMPs to reduce pesticide use through implementation of IPM policies and practices.

The Pyrethroid Pesticide BPA requires the following practices to reduce pesticide use:

*Reduce reliance on pyrethroids and other pesticides that threaten water quality by adopting and implementing policies or procedures that minimize the use of pesticides that threaten water quality in the discharger's operations and on the discharger's property.*

*Develop and implement an Integrated Pest Management policy that:*

- a) Is consistent with IPM as defined by the University of California Statewide IPM Program (UC-IPM) or the California Structural Pest Control Board definition.*
- b) Applies to all Permittee staff who conduct or contract for pest management and to pest management vendors under contract to the Permittee.*
- c) Assigns responsibilities to a designated staff position and/or department to coordinate Permittee activities and ensure that the IPM policy is implemented.*

By June 30, 2023, the City will establish contract provisions that require certified IPM services, consistent with the BPA, for any structural pest control vendors that conduct pest control at City buildings and facilities.

By June 30, 2024, the City will establish and begin implementation of an IPM policy for all pest management conducted at City facilities or as part of City operations. Such policies will be designed to meet the requirements of the Pyrethroid Pesticide BPA.

### 4 Participation Pesticide Regulatory Processes

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The City recognizes that protection of water quality related to pesticides is dependent on effective regulatory evaluation and registration of allowable pesticide use. This authority resides with the United States Environmental Protection Agency (USEPA) and the California Department of Pesticide Regulation (DPR). Local Municipal Separate Storm Sewer System (MS4) agencies are specifically preempted under State law from exerting control of pesticide consumer sales.

The Pyrethroid Pesticide BPA requires participation in pesticide regulatory processes, as follows:



*Track USEPA and DPR pesticide evaluation and registration activities as they relate to surface water quality and encourage these agencies to accommodate urban water quality concerns within their pesticide registration processes. This may include assembling and submitting available information (such as monitoring data) to USEPA and DPR during public comment periods to assist in their pesticide evaluation and registration activities. This best management practice would be implemented most effectively through a cooperative regional or statewide approach.*

The City will meet the requirements of this section by continuing to provide financial support for organizations, such as the California Stormwater Quality Association (CASQA), that track *USEPA and DPR* pesticide evaluation and registration activities to encourage agencies to accommodate urban water quality concerns within their pesticide registration processes. The City will also monitor and report on pesticide trends in receiving waterways. City staff may also participate and assist in activities such as the following:

- Assembling and submitting monitoring data that can be utilized by USEPA and DPR to assist during pesticide evaluation and registration activities,
- Developing and maintaining a Pesticide Watch List to focus attention on the pesticides in the urban environment that impact aquatic life beneficial uses,
- Monitoring of Federal Register notices for relevant regulatory actions, and
- Reviewing relevant agency reports and scientific literature.

The specifics of how this BMP is implemented in the future may change, and such changes will be documented in the appropriate Workplan, Mid-Term and/or End-Term Reports.

## 5 Progress Reports and Adaptive Management

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The Pyrethroid Pesticide BPA requires submitting progress reports to document the management practices that have been implemented, evaluate pyrethroid concentrations with respect to the pyrethroid triggers, and identify effective actions to be taken in the future. Accordingly, the City will prepare and submit a progress report in conjunction with the Mid-Term and End-Term report submittals for the MS4 Permit. Pending approval of this Pyrethroid Management Plan, the first progress report is anticipated to be submitted by October 15, 2022 as a part of the End-Term report.

*A progress report shall be provided to the Board annually or at a frequency consistent with the discharger's permit requirements to document the management practices that have been implemented, to evaluate pyrethroid concentrations with respect to the pyrethroid triggers, and to identify effective actions to be taken in the future. The progress report can be included in other reports submitted to the Board, as appropriate.*

*Pyrethroid management plans are completed when it can be demonstrated that the Acute and Chronic Pyrethroid Triggers are not exceeded in discharges and the demonstration is approved by the Executive Officer.*



*If the management practices do not result in discharge concentrations at or below the pyrethroid numeric triggers, then the MS4 discharger shall either identify any available, reasonable, and feasible additional/alternative practices for implementation, or provide a justification for why current practices are expected to result in achieving the triggers within a reasonable timeframe. This justification may include actions required by state and federal regulations.*

The City will evaluate the implementation of the required management practices. The City's Mid-Term and End-Term Reports will include documentation of the management practices that have been implemented.

The Pyrethroid Pesticide BPA acknowledges that during the course of Pyrethroid Management Plan implementation, if the pyrethroid numeric triggers are not being met, adaptive management may be necessary. Effectiveness assessments will be performed as a part of the City's Mid-Term and End-Term Reports. The City will qualitatively evaluate the effectiveness of the Pyrethroid Management Plan, as well as the experience that staff has had in implementing the Pyrethroid Management Plan, to identify potential modifications and refine the Pyrethroid Management Plan approach as needed as a part of the Mid-Term and End-Term Reports. Effective actions identified to be taken in the future will be incorporated into the Program Effectiveness Assessment and Improvement Plan.

The Pyrethroid Management Plan may be reviewed and revised as determined necessary based on the following:

- Analysis of trend monitoring results (5-10 year period of record) to evaluate pyrethroid concentrations with respect to the pyrethroid triggers;
- Completion of the Urban Pesticide Amendment, which is expected to formalize proactive regulation of pesticides by the DPR and identify cost-effective activities that can be implemented or supported by the regulated entities (see **Section 4**); and
- Identification by the City of changes to improve the effectiveness of specific Pyrethroid Management Plan activities, based on its experience in implementing the stormwater program and the activities described in **Section 2** through **Section 4**.